

What is claimed is:

1. A method for the interferometric measurement of non-rotationally symmetric wavefront errors on a specimen which can be brought into a plurality of rotational positions, at least one measurement result being determined in each of the rotational positions, and a concluding mathematical evaluation of all measurement results being carried out, wherein the measurement is carried out in at least two measurement series (M, N), the measurement results ( $M_1...M_m$ ,  $N_1...N_n$ ) of each of the measurement series (M, N) being determined in mutually equidistant rotational positions of the specimen, each of the measurement series (M, N) comprising a specific number n, m of measurements, m and n being natural and mutually coprime numbers.
2. The method as claimed in claim 1, wherein an interferometric absolute measurement is made.
3. The method as claimed in claim 1, wherein in the first measurement series (M), the m measurement results ( $M_1...M_m$ ) are determined in m equidistant rotational positions of the specimen, whereupon the specimen is displaced into a rotational position not equidistant thereto, which is followed by the at least one second measurement series (N) in which the n measurement results ( $N_1...N_n$ ) are determined in the n equidistant rotational positions of the specimen.
4. The method as claimed in claim 1, wherein the individual measurement results ( $M_1...M_m$ ,  $N_1...N_n$ ) of the at least two measurement series (M, N) are determined in an unordered sequence with respect to one another.
5. The method as claimed in claim 1, wherein the measurement results ( $M_1...M_m$ ,  $N_1...N_n$ ) of each of the at least two measurement series (M, N) are evaluated independently of one another for non-rotationally symmetric wavefront errors ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) on the specimen, the difference of the at least two non-rotationally symmetric wavefront errors ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) being formed, whereupon the difference ( $\langle W \rangle_m - \langle W \rangle_n$ ) that is formed is

10045260-110701

computationally rotated  $m$  or  $n$  times and the results are averaged out, and whereupon at least one of the wavefront errors ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) is corrected with the result ( $\langle \langle W \rangle_m - \langle W \rangle_n \rangle_m$ ) averaged in this way.

5 6. The method as claimed in claim 1, wherein the measurement results ( $M_1 \dots M_m$ ,  $N_1 \dots N_n$ ) of each of the at least two measurement series ( $M$ ,  $N$ ) are evaluated independently of one another for non-rotationally symmetric wavefront errors ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) on the specimen,  
10 the difference of the at least two non-rotationally symmetric wavefront errors ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) being formed, whereupon the difference ( $\langle W \rangle_m - \langle W \rangle_n$ ) that is formed is computationally rotated  $m$  or  $n$  times and the results are averaged out, and whereupon at least one of the  
15 wavefront errors ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) is corrected with the result ( $\langle \langle W \rangle_m - \langle W \rangle_n \rangle_n$ ) averaged in this way.

7. The method as claimed in claim 5, wherein the wavefront error ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) is corrected with the averaged result ( $\langle \langle W \rangle_m - \langle W \rangle_n \rangle_m$ ) by addition.

20 8. The method as claimed in claim 6, wherein the wavefront error ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) is corrected with the averaged result ( $\langle \langle W \rangle_m - \langle W \rangle_n \rangle_n$ ) by addition.

9. The method as claimed in claim 5, wherein the wavefront error ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) is corrected with the  
25 averaged result ( $\langle \langle W \rangle_m - \langle W \rangle_n \rangle_m$ ) by subtraction.

10. The method as claimed in claim 6, wherein the wavefront error ( $\langle W \rangle_m$ ,  $\langle W \rangle_n$ ) is corrected with the averaged result ( $\langle \langle W \rangle_m - \langle W \rangle_n \rangle_n$ ) by subtraction.

11. The method as claimed in claim 1, wherein the  
30 rotational direction of a relative rotational movement ( $R$ ) is kept unchanged during the recording of all measurement results ( $M_1 \dots M_m$ ,  $N_1 \dots N_n$ ).

12. The method as claimed in claim 1, wherein the  
35 equidistant rotational positions of the measurement results ( $M_1 \dots M_m$ ,  $N_1 \dots N_n$ ) of the individual measurement series ( $M$ ,  $N$ ) are respectively determined from the ratios of a complete rotation ( $360^\circ$ ) and the respective number  $m$ ,  $n$  of the measurements of each of the measurement series ( $M$ ,  $N$ ).

10045250-110701